APPENDIX E
NBC INTELLIGENCE PREPARATION OF THE BATTLEFIELD

Intelligence Preparation of the Battlefield is a systematic and continuous analysis of the enemy, terrain, and weather for a given area and mission. FM 34-130, Intelligence *Preparation of the Battlefield* outlines the process in detail. IPB is a continuous process which has five phases-- battlefield area evaluation, terrain analysis, weather analysis, threat evaluation, and threat integration.

BATTLEFIELD AREA EVALUATION

Battlefield area evaluation is the identification of the areas of operation and interest. Here the chemical staff becomes familiar with the unit's area of operation and the assigned mission.

TERRAIN ANALYSIS

During this phase, the terrain is analyzed to determine its military significance. The S2 determines how the terrain will affect friendly and enemy capabilities, vulnerabilities, and courses of action. The chemical staff considers how the terrain will affect NBC and smoke operations. The chemical staff must not only analyze the terrain for its effects on smoke and agent clouds, but for terrain masking during nuclear operations. They should also look for trafficability for chemical units and the location of water sources. Identification of critical terrain features (for example, defiles/chokepoints, rivers, key terrain) is important. The *S2* will develop the combined obstacle overlay and identify avenues of approach and mobility corridors. Without understanding the terrain, the chemical staff cannot predict the effects of chemical agents and smoke.

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WEATHER ANALYSIS

Weather analysis determines its effects on military operations. The chemical staff must obtain detailed weather information such as the temperature, humidity, surface windspeed and direction, and precipitation. They then can determine how the weather will affect the employment of both friendly and enemy NBC and smoke agents. This determination is much more than stating that the winds will favor the enemy's employment. FM 3-6, *Field* ***Behavior*** *of NBC Agents* is an excellent source on how weather affects the employment of smoke and chemical agents. The effect of weather on NBC operations is categorized as unfavorable, moderately favorable, and favorable. FM 3-6 contains two tables that summarize the effects of both terrain and weather on the employment of nonpersistent (vapor and aerosol) and persistent (liquid) chemical agents. FM 34-81, ***Weather Support for Army Tactical Operations*** outlines the sources for weather reports and provides additional detail on how weather can affect chemical and smoke operations.

THREAT EVALUATION

In this phase of the IPB, the type and composition of the enemy force in the area of operations is determined. The chemical officer assesses what the enemy's capabilities are to employ NBC weapons and smoke to include types of delivery systems with their ranges. It is also important to review the enemy's NBC and smoke employment doctrine and evaluate it against their mission.

While each enemy force will develop its own chemical employment doctrine, it is possible to classify it into three groups--force-oriental, terrain-oriented, or a combination of the two. The Iraqi military's use of chemical weapons during the Iran-Iraq War was primarily force-oriented. Other threat nations use chemical weapons in both a force and terrain oriented manner. A terrain oriented enemy will attempt to use chemical agents, particularly persistent agents, to restrict terrain or shape the battlefield. Figure E-1 gives an example of a terrain oriented chemical attack. The employment of chemical agents by a force oriented enemy is the attempt to directly target and hit troop concentrations. Both nonpersistent and persistent chemical agents can be used in a force oriented attack. Figure E-2 gives an example of an force oriented chemical attack.

A nuclear-capable enemy will develop its own employment doctrine. This doctrine will be based on many factors to include weapon type, yield, and delivery systems available. How the enemy employs biological weapons is dependent on similiar factors--agent type and delivery systems.

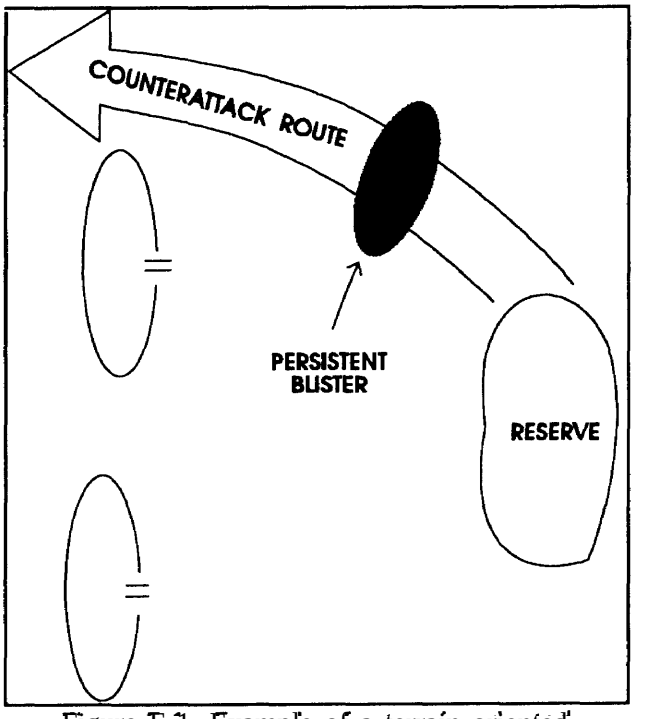

Figure E-1. Example of a terrain oriented chemical attack.

The chemical staff also must consider the enemy's ability to use and see through smoke. The chemical staff must answer these questions:

- How does the enemy use smoke ?
- What type of smoke does he have ?
- How will our smoke affect him ?

The enemy's NBC protective posture must be identified because it may provide indicators of his intent. Troops observed wearing protective gear may indicate an impending attack. During the Iran-Iraq War, the Iraqis never issued friendly chemical strike warnings, but instead issued warnings that the enemy was about to launch a chemical attack. Enemy soldiers captured without NBC protective equipment could indicate a lower probability y of NBC attacks because of an inability to operate in a NBC environment.

The chemical staff also must review recent enemy chemical attacks to understand how he is actually applying his doctrine. Iraqi chemical weapons employment doctrine went through several modifications during the Iran-Iraq War.

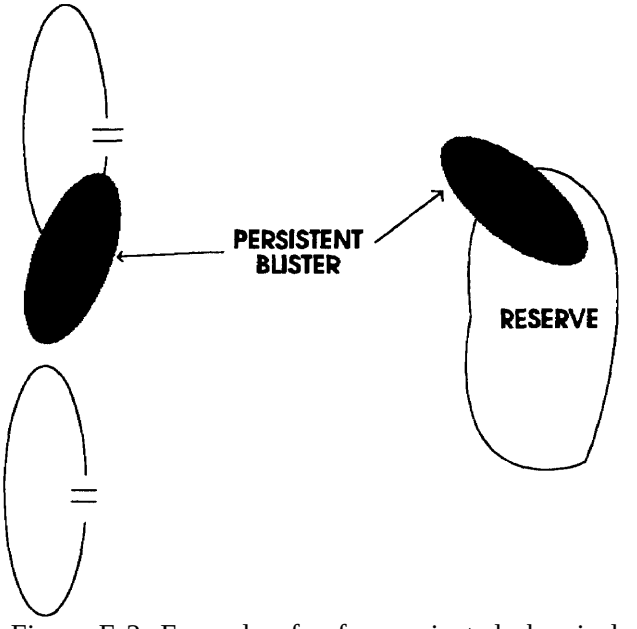

Figure E-2. Example of a force-oriented chemical attack.

THREAT INTEGRATION

During the threat integration phase, the information developed previously is combined to identify possible enemy courses of action. The product is the situation template (SITEMP). The chemical staff includes where and when the enemy will employ NBC weapons on the SITEMP.

For a terrain-oriented enemy, templating of persistent chemical targets is relatively easy. The chemical staff identifies locations on the SITEMP where the enemy may use persistent chemical agents. When templating a force-oriented enemy, the chemical staff must identify enemy trigger lines or decision points that the enemy will use to employ his chemical agents (Figure E-3). During this phase of the IPB, it is critical that the chemical staff and the S2 work together.

RECONNAISSANCE AND SURVEILLANCE PLANNING

Once the chemical staff has completed the threat integration phase of the IPB, NBC tasks are incorporated into the recon effort to confirm or deny the enemy SITEMP.

Templated persistent targets are designated as Named Areas of Interest (NAI) which are areas or points that will confirm or deny a particular enemy activity. NAIs are shown on the collection plan (Figure E-4).

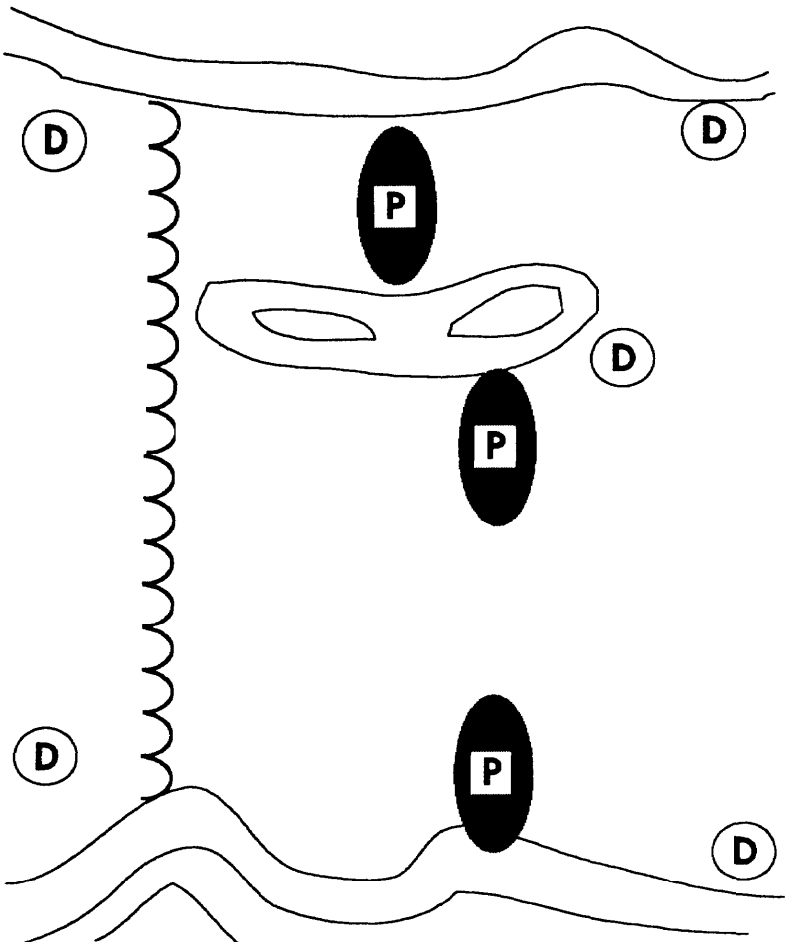

Figure E-3. Templated contaminated areas and decontamination sites.

The collection plan assigns responsibilities for collecting information, to include observing the NAIs. The chemical staff provides the indicators for each NAI. The presence of contamination is an absolute indicator, but it may not be possible to physically reconnoiter the NAI. A unit may be tasked to establish an observation point (OP) to overwatch the NAI. An indicator that chemicals may have been employed is the impacting of artillery within the NAI.

Upon completion of the collection plan, the S2 and the S3 will develop the reconnaissance and surveillance plan (R&S). The chemical staff must assist to develop the collection plan regarding the NBC related NAIs. The R&S plan is given to the units tasked to collect the information. NBC recon tasks are included in the R&S plan. When supported by NBC recon assets, integrate the NBC recon unit into the R&S plan. An example of a collection plan, showing a NBC related PIR, is at Figure E-4.

PIR	INDICATORS	NAI	TIME		SPECIFIC ORDERS OR REQUEST	TASKINGS		
			NET	NLT		44 CHEM	2-1 CAV	1-87 INF
3. Will the enemy use NBC weapons and where & when ?	a. NBC detection equipment	32	2200	0900	check for chem	X		
	b. Movement of chemical munitions forward.	36	2200	0900	report activity	X		
	c. Movement of decon & NBCR vehicles forward.	20	2200	0900	report activity		X	
	d. Low order artillery bursts.	18	2200	0900	report activity			X

Figure E-4. Example of a collection plan.